C-A OPERATIONS PROCEDURES MANUAL

15.3.3.9 Procedure for using Spectrum Analyzer on STA. 1 & II Voltages and C10Sec.

(Booster/AGS Ring Power Supply Systems Group Procedure EPS-S-009)

Note: This document was formerly a C-A Group Procedure. The content of the group procedure was reviewed by the Technical Supervisor. All approvals and/or issue dates of the original group procedure are maintained for present use.

Text Pages 3 through 4

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved:_____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

M. Bannon

Group Procedure EPS-S-009
Revision 00

REQUIRED READING

DATE: 3/8/96

TO: Siemens Operartor Personnel

FROM: Michael Bannon

SUBJECT: Additional Shift Readings Taken Once a Shift if Running SEB

1. The following measurements shall be taken once a shift. (Note: Printouts should record the function data that is running when readings are taken.)
   a. C10SEC Harmonics (LILCO SYNC)
   b. C10SEC Harmonics (S.S.=SIEMENS SYNC)
   c. STA.I & II Filtered Harmonics (Active Filter "ON") (S.S.)

   The above data should be printed out using the Spectrum Program on the Gateway. (Running function and what measurements are on the sheets.)

   Place the data in three different 3 ring binders

   Compare this data with the previous shifts and identify any difference found. Then send by email the differences to Mike Bannon and Ioannis Marneris.
   a. Mike Bannon -bannon@bnl.gov
   b. Ioannis Marneris- marneris@bnl.gov

   Other abnormalities of the MMPS should also be sent email to both myself and Ioannis Marneris.

2. Siemens Operators shall be responsible for turning on the "Active Filter" power supply each time Siemens is turned on.

3. Siemens Operators should check every 2-3 hours making sure the active filter power supply is "ON".

4. Siemens Operators should be aware that we are running with the spill servo function to spill the beam. Therefore should be aware where to look using the scope on the spill servo chassis to see what the spill function looks like. (T.P.-14)

5. Siemens operators should be aware that we are using the new dwell field correction system. This should be disabled when bring the set up to the desired function, then enabled once we are back up to the running function. Note: this will have to be changed 1- if the rep rate is changed the start-stop predet will have to be changed too if the function is changed. It may be necessary to change the NEG scale (Refer to set-up procedure.)

Procedure for Taking STA I & II Filtered Voltage and C10sec Voltage Harmonics

1. Refer to the following sheet for the HP 3562 Analyzer Setup.

2. Call up on Apollo the live functions B(t) or hook the scope op to the C10SEC signal and determine when the flat top beings. Then set the SS (SEIMENS SYNC) predet (#15) and the LS (LILCO SYNC) predet (#5) to approx. 100-300 MSEC after the flatop begins. (Note: It is necessary for the signal being sample to be 800 msec long from your trigger otherwise the freq. span will have to be changed this should not be the case when taking these readings it is just something you should be aware of.)

3. Once the analyzer is set a the correct trigger time set the time avg. to "15" by pressing "AVG." then "STABLE MEAN" then time avg. " THEN "15".

4. Press "START" to begin averaging (Note: Make sure while analyzer is averaging the C10SEC that the signal is present all the time by looking on the scope at the C10SEC signal if it goes away for any reason this will effect the readings (i.e. ATR pulse if this occurs hit start again for a new sample.)

5. To get a printout use the gateway from drive "D" at D: prompt type spectrum enter set the MV reading from the analyzer. This is the voltage in MV that is where the cursor is set when reading the amplitudes of the harmonics set the cursor so that the cursor is just under the amplitudes of the dominant harmonics without reading all the hash. The cursor setpoint is read at the top of the screen. (Spectrum program wants this voltage in MV)

6. The scaling factor for STA. I & II voltage is 1400 (1V=1400V) the scaling factor for the C10SEC IS 1 (1V=1V)

7. The heading should read as follows::
   a. For STA. I & II VOLT.

   b. STA. I & II Filter SS AF on <u>(live function)</u> initial of the person taking readings for C10SEC SS C10 SEC SS <u>(live function)</u> initial of the person taking readings for C10SEC LS C10SEC LS <u>(live function)</u> initial of the person taking the readings.

8. Then press enter

9. Press Y for printout.